Before the

Federal Communications Commission
Washington, D.C. 20554

In the Matter of:	)	
	)	
The technical and operational feasibility of enabling the flexible use of the 700 MHz public safety narrowband allocation and guard band for broadband services	)	PS Docket No. 06-229
	)	
	)	
	)	

THE REGION 5 700 MHZ REGIONAL PLANING COMMITTEE COMMENTS ON THE FLEXIBILE USE OF THE PUBLIC SAFETY 700 MHZ NARROWBAND ALLOCATION

Region Description

Region 5 commonly referred to as Southern California, consists of 10 counties – San Luis Obispo, Santa Barbara, Kern, Ventura, San Bernardino, Los Angeles, Orange, Riverside, San Diego, and Imperial.

The Southern California terrain is varied and rugged. Elevations range from 180 feet below sea level to over 10,000 feet above. Population is concentrated in the Los Angeles basin and adjacent areas and also in the City of San Diego and its adjacent areas. Other areas of Southern California have small concentrated areas of population with vast areas of mountains and desert with very sparse population. The Los Angeles Basin including surrounding areas requires the majority of spectrum to support public safety services to the 22.5 million citizens in the Region.

General Description of Agencies using or planning to use the 700 MHz Narrowband Spectrum

- San Diego and Imperial counties (they operate a joint regional voice system on 800 MHz)

    - San Diego County has funding for a new Jail radio system and plans to use their 700 MHz allotments for that due to lack of available 800 MHz channels
    - They also plan to use 700 MHz channels to add capacity to their 800 MHz mobile data system to accommodate growth of the system
- City of San Diego
    - The city of San Diego has implemented a new 700 MHz system to accommodate growth as there are no available 800 MHz channels to expand the existing 800 MHz system
- Riverside County
    - Riverside County is implementing a new 700 MHz voice and narrowband mobile data system with an approximate cost of $150 Million
    - Riverside County is using 700 MHz spectrum for this due to lack of 800 MHz channels and will be giving back the currently used 800 MHz channels to facilitate the 800 MHz reconfiguration in the Southern California area
- Orange County
    - Orange county has pending licenses through the State SIEC to implement infrastructure for the 700 MHz interoperability channels
    - They have funding and will construct the system as soon as the licenses are granted
- San Bernardino County
    - San Bernardino county has implemented a new 700 MHz system to provide for growth of the existing 800 MHz system
    - There are no 800 MHz channels available to expand the existing 800 MHz system
    - The 700 MHz system also is providing enhanced coverage in the Cajon Pass that links the San Bernardino Valley to the northern high desert areas of the county
    - The Cajon Pass is a major transportation corridor for rail and trucks (Interstate 15 Highway and two separate rail lines) serving all of southern California
- City of Los Angeles
    - The City of Los Angeles plans to apply for licenses to construct their allotted channels in the 1st quarter of 2011
    - This system will provide for growth of their general government 800 MHz system that will not be part of the proposed LARICS project[1]
- City of Long Beach
    - The City of Long Beach has licenses pending (approved by the Region) to implement a new 700 MHz system to cover the City

Channel Usage Metrics

[1] LARICS is a proposed project to built a joint voice system for police and fire agencies in Los Angeles County on UHF spectrum

Table 1 show the number of channels, number of sites, geographical area covered and approximate percentage of jurisdictional landmass covered.

Table 1

Agency	**Number of channels[2]**	**Geographical Area Covered in square miles**	**Percent of Jurisdictional Area**	**Number of Sites[3]**
San Diego County	24	[4]		12
City of San Diego	10	372	100%	6
Riverside County - Voice	152	7303	100%	75
Riverside County – Mobile Data	64	7303	100%	75
Orange County	10			4
San Bernardino County	34	1000	10%	3
City of Los Angeles	68	498	100%	6
City of Long Beach	12	66	100%	1

The members of the Region 5 Regional Planning Committee (Region 5) consider the 700 MHz narrowband spectrum to be vital in assuring mission critical voice and narrowband mobile data services to the public safety services in much of the region. This spectrum is the only available spectrum for growth for the County areas adjacent to Los Angeles County including San Diego County. Region 5 coordinates closely with the State of California and understands the State is implementing a new Vehicular Repeater System (VRS) using the State allocated channels. In addition the state informed Region 5 they plan future capacity enhancements to the voice systems for the State Departments of Transportation and Parks also using the State 700 MHz allocations. The significant number of interoperability channels as they are built out over time will greatly enhance interoperability in the Region.

Southern California is subject to many different natural threats including wild land fires, earthquakes, floods and hazardous material spills. Large significant incidents occur in southern California every year. No one agency can deal with these incidents by themselves. This has lead Southern California agencies to develop a very effective mutual aid system. Nearly every incident requires interoperable communications to

[2] The number of channels is stated in 6.25 kHz wide channels. The systems implemented or pending to date are all using technologies requiring 12.5 or 25 kHz bandwidth.

[3] Sites are for FB/FB@ operations there are generally more sites for FX1 operations

[4] The County of San Diego plans a Jail voice radio system with the first 4 facilities are funded and out for bid. While the area covered by each facility is small they are spread out throughout the County.

manage and mitigate the incident. The addition of the 700 MHz interoperability channels will greatly enhance mutual aid response in southern California. Of the ten counties in Southern California, five Counties use a multiagency 800 MHz voice system for primary public safety communications in their County. Until the availability of the 700 MHz interoperability channels only 7 channels[5] are available at 800 MHz for interoperability communications. This has led to many interference problems from the complexity of trying to share the limited channels. The availability of the 700Channels will over time will solve this problem and enhance interoperability communications in the region.

Region 5 and the State SIEC worked closely to develop a plan[6] for use of the interoperability channels that allocations a set of channels to each County in the Region. These sets of channels are allocated so that there will be no overlapping coverage has the interoperability channels are built out over time. This will solve the main cause of interference problems experienced with the 800 MHz channels that must be shared between all of the counties in the Region. In addition a block of channels are allocated on a shared basis for a mobile trunked interoperability to cover small geographical areas that require additional capacity during a major incident. Each County can build one or more systems that will allow any unit in the region, with proper programming, to use a standard set of talk groups. This is a capability the agencies in the Region have desired for a long time to better manage large incidents.

Because the narrowband 700 MHz channels are the only spectrum available to the counties surrounding Los Angeles County for growth and the enhanced interoperability capabilities that this spectrum brings, the Region 5 members are opposed to any flexibility to use broadband mobile data (BB) on the narrowband channels. As the 700 MHz interoperability channels are added to the units of the five Counties with primary 800 MHz systems, there will be increasing use of 700 interoperability channels throughout Region 5. This use will be incompatible with any BB use of the narrowband spectrum. In addition the day to day use of 700 MHz narrowband spectrum by the five Counties plus the Cities of Los Angeles and Long Beach will not allow for BB use in six of the ten Counties. The other four least populated counties San Luis Obispo, Santa Barbara, Kern, and Ventura are unlikely to build out a BB system in the near future due the rural nature of those counties. Overlapping BB and narrowband uses of the same spectrum is just not possible due to mutual interference so for that reason and as discussed above Region 5 opposes in flexibility of BB use of the narrowband spectrum.

Region 5 cannot determine any way technically for both BB and narrowband operations to operate on the same spectrum simultaneously. The only feasible way to allow BB operations on the narrowband spectrum would be to not allow narrowband use in the same geographical area with Broadband services. As shown above the interoperability channels after build out will be used statewide on incidents where the 5 counties respond to mutual aid requests. The State use of 700 MHz narrowband is also statewide. This usage pattern would not allow a division of the narrowband allocation to

[5] These are the 5 NPSPAC national channels plus 2 regional NPSPAC channels
[6] The plan is attached in appendix A

share portions of the narrowband spectrum between BB and narrowband services[7]. Region 5 agencies also respond nationally to provide mutual aid assistance on large incidents in other parts of the nation and will need to use the 700 MHz interoperability channels on those incidents. These considerations lead to the Region 5 member's opposition to flexible use of the narrowband allocation for BB use.

Respectfully Submitted

David Buchanan

Chair, Region 5, 700 MHz Regional Planning Committee

December 3, 2010

[7] Region 5 research found that LTE technology requires 2.5 MHz or greater channel sizes. This is not possible given the makeup of the narrowband allocations that spread State and interoperability channels throughout the allocation. Additionally only half of the narrowband allocation is available in the potions of the region subject to sharing with Mexico.

Appendix A

Use Plan for 700 MHz Interoperability Channels in Southern California

CalSIEC AGENDA REPORT

TO: California Statewide Interoperability Executive Committee (CalSIEC)

FROM: Dave Buchannan, Chair, Region 5 700 MHz Regional Planning Committee,

As presented by Robert Stoffel, County of Orange

DATE: October 5, 2010

SUBJECT: RECOMMENDATIONS FOR USE OF THE 700 MHz INTEROPERABILITY CHANNELS IN SOUTHERN CALIFORNIA

SUMMARY: There is a significant need to coordinate the implementation of 700 MHz interoperable communications channels within Region 5 (Imperial, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, and Ventura counties) so that if and when these systems are built out, each Operational Area will have pre-designated assignments to ensure both technical compatibility and operational awareness.

BACKGROUND: The Region 5 700 MHz Regional Planning Committee (RPC) convened an interoperability work group (WG) to make recommendations for use of the 700 MHz interoperability channels in the Region 5 area. The WG considered the FCC rules for interoperability channels, past problems with use of the 800 MHz NPSPAC channels, and current needs for interoperability channels in Region 5 in formulating these recommendations.

The primary problem with the 800 MHz implementations is keeping the tactical repeaters knocked down. Because a common CTCSS tone is required, only one repeater can be active at a time in a given area without self interference. Other problems identified with 800 MHz are the lack of interoperability channels. In Region 5, only the five national (ICALL/ITAC) and the two statewide (CLEMARS/FIREMARS) channels are available. The 700 Band gives us far more channels to operate with and because of that the WG is recommending a different approach from 800 MHz in use of the channels.

The WG recommends that each County, in cooperation with cities, be assigned a group of tactical channel channels for use in that County. Each County would also install, on a best effort basis, one calling channel (7CALL50) with coverage throughout the geographical area of each County. These calling stations would be configured as Base FB only. This configuration avoids the multiple repeaters keying at the same time. Each County, in cooperation with cities, would be responsible to monitor the calling channel. Direct mode shall not be used on the Calling channel (7CALL 50).

Conventional tactical channels would be assigned as groups and geographically separated. Each group would consist of a General Public Safety, Law, Fire and EMS channel (total four channels per county). The Counties would make a best effort to provide coverage throughout their geographical areas. The WG recognizes that several of the Counties in Region 5 have large rural areas and it may not be cost effective to provide countywide coverage. Therefore, deployable repeater configurations are acceptable enhancements to fixed station coverage.

The following table shows the channels assigned to each County:

General Public Safety Tactical	**Law Tactical**	**Fire Tactical**	**EMS Tactical**	**County Assigned**	**County Assigned**	**County Assigned**
7TAC55	7LAW61	7FIRE63	7MED65	San Diego/Imperial	San Bernardino	Santa Barbara
7TAC56	7LAW62	7FIRE64	7MED66	Riverside	Ventura	
7TAC75	7LAW81	7FIRE83	7MED86	Orange	Kern	
7TAC76	7LAW82	7FIRE84	7MED87	Los Angeles	San Luis Obispo	

Counties should configure fixed stations with patterned antennas and use sites that minimize the signals towards their co-channel Counties. This should include the receive antenna if different from the transmit antenna. As common NAC codes are used, there is some chance of mobile interference inter-county. Patterned antennas and careful site selection will minimize this problem.

Each county may maintain and use a transportable trunked system for interoperability on incidents. The trunked system will only use P25 trunking standards. This system will use a common system ID (to be determined) and 16 common talkgroups (labeled TRP-1 to TRP-16). The system will use the eight FCC designated secondary trunked channels (7TAC51, 7TAC52, 7TAC53, 7TAC54, 7TAC71, 7TAC72, 7TAC73, and 7TAC74) for these systems. The channels 7TAC54 and 7TAC74 will be used for control channels. Region 5 will work with the State to purchase a common system ID for use by all counties wishing to construct a transportable trunked system. The talkgroups will be assigned at an incident using NIMS procedures. The limit of 16 talkgroups is for two reasons. This number is typical of the modes available in a portable radio, and limiting the talkgroups to 16 with eight channels minimizes the chance of busying out the system with heavy loading.

The eight secondary trunked tactical channels may also be used for direct mode (unit to unit) communications in all counties. The assignments at an incident would be per NIMS procedures.

The 7GTAC57 and 7GTAC77 channels are reserved for use by critical infrastructure agencies providing support services at an incident. These channels may only be used per a written agreement between a critical infrastructure agency and each County to specify terms of use.

By adopting this plan, there is no requirement that any county must build out any of these systems. It is the intent of this proposal to define what channels would be used, on a county-by-county basis, should a county desire to build out 700 MHz interoperability, now or in the future.

At this time, Region 5 has two counties (Orange, Riverside) that are ready to implement 700 MHz interoperability equipment. Both are holding on moving forward until the anticipated CalSIEC approval of this proposal, so that they may proceed by following the recommendations as outlined in this proposal.

This project is fully supported by the Region 5 700 MHz Regional Planning Committee, and the proposed plan has been shared with the various operational areas. In addition, the proposed plan was presented at the August 31, 2010 CalSIEC Southern Planning Area (SPA) meeting, and has the support of the SPA. An official endorsement e-mail was received by Sgt. Sven Crongeyer, L.A. County Sheriff's Department, Chairman, Southern Planning Area (SPA) on August 31, 2010.

RECOMMENDATION:

Approve the recommendations and authorize Imperial, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, and Ventura counties to operate the designated 700 MHz interoperability channels as outlined in this plan, if and when funding and operational needs dictate. Use of the channels shall be done under the auspices of a permanent FCC license to be held by the State of California. Channel information shall be published in the Cal-IFOG when the Calling Channel and any of the repeaters become operational.